

In the Application of:  
Gerd MANSFELD  
Serial No.: New Application

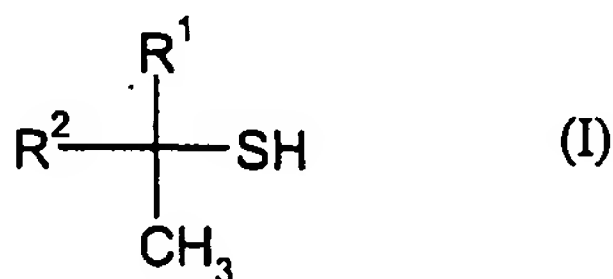
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IN THE CLAIMS:

1. (Currently Amended) ~~Use of~~ A method for providing a detectable odor to a fuel gas having a methane content of at least 60 wt.% by adding to said fuelgas a mixture containing
  - A) at least two different acrylic acid C<sub>1</sub>-C<sub>6</sub> alkyl esters;
  - B) at least one compound from the group comprising C<sub>1</sub>-C<sub>8</sub> mercaptans, C<sub>4</sub>-C<sub>12</sub> thiophenes, C<sub>2</sub>-C<sub>8</sub> sulfides or C<sub>2</sub>-C<sub>8</sub> disulfides; and
  - C) at least one compound from the group comprising norbornenes, C<sub>1</sub>-C<sub>6</sub> carboxylic acids, C<sub>1</sub>-C<sub>8</sub> aldehydes, C<sub>6</sub>-C<sub>14</sub> phenols, C<sub>7</sub>-C<sub>14</sub> anisoles or C<sub>4</sub>-C<sub>14</sub> pyrazines. [[;]]
  - D) ~~optionally an antioxidant~~

~~— for the odorisation of fuel gas having a methane content of at least 60 wt.%.~~
2. (Currently Amended) ~~Use~~ A method according to claim 1, wherein the mixture contains
  - A) at least two different acrylic acid C<sub>1</sub>-C<sub>4</sub> alkyl esters;
  - B) at least one compound from the group comprising C<sub>1</sub>-C<sub>8</sub> mercaptans, C<sub>4</sub>-C<sub>8</sub> thiophenes, C<sub>2</sub>-C<sub>8</sub> sulfides or C<sub>2</sub>-C<sub>8</sub> disulfides;
  - C) at least one compound from the group comprising norbornenes, C<sub>2</sub>-C<sub>5</sub> carboxylic acids, C<sub>2</sub>-C<sub>5</sub> aldehydes, C<sub>6</sub>-C<sub>10</sub> phenols, C<sub>7</sub>-C<sub>10</sub> anisoles or C<sub>4</sub>-C<sub>10</sub> pyrazines and
  - D) at least one antioxidant.
3. (Currently Amended) ~~Use~~ A method according to claim 1, wherein the mixture contains
  - A) acrylic acid methyl ester and acrylic acid ethyl ester;
  - B) at least one compound from the group comprising thiophene, tetrahydrothiophene, dimethyl sulfide, diethyl sulfide, di-n-propyl sulfide, diisopropyl sulfide, dimethyl disulfide, diethyl disulfide, di-n-propyl disulfide, diisopropyl disulfide or the mercaptans having the formula (I)

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wherein

$\text{R}^1$  denotes hydrogen, methyl or ethyl, ~~preferably methyl~~, and

$\text{R}^2$  denotes an alkyl group having 1 to 4 carbon atoms, ~~preferably methyl, ethyl, isopropyl, isobutyl or tert-butyl~~;

C) at least one compound from the group comprising  $\text{C}_2$ - $\text{C}_5$  carboxylic acids,  $\text{C}_3$ - $\text{C}_5$  aldehydes,  $\text{C}_1$ - $\text{C}_4$  monoalkylated phenols; and

D) at least one antioxidant.

4. (Currently Amended) Use A method according to claim 1, wherein the mixture comprises
  - A) acrylic acid methyl ester and acrylic acid ethyl ester;
  - B) tert-butyl mercaptan;
  - C) at least one compound from the group comprising propionaldehyde, isovaleraldehyde, isovaleric acid, 2-ethylphenol, 4-ethylphenol; and
  - D) one or two antioxidants ~~or consists of these components~~.
5. (Currently Amended) Use A method according to claim 1 ~~one of claims 1 to 4~~, characterised in that the mixture contains ~~as antioxidant~~ tert-butyl hydroxytoluene or hydroquinone monomethyl ether as an antioxidant.
6. (Currently Amended) Use A method according to claim 1 ~~one of claims 1 to 5~~, characterised in that the mixture contains:
  - 60 to 97 wt.% of component A), ~~and/or~~
  - 1 to 30 wt.% of component B), ~~and/or~~
  - 0.5 to 20 wt.% of component C), and ~~and/or~~
  - 0.01 to 2 wt.% of component D).

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7. (Currently Amended) Use A method according to claim 1 ~~one of claims 1 to 5~~, characterised in that the mixture contains:  
70 to 95 wt.% of components A), ~~and/or~~  
2 to 25 wt.% of components B), ~~and/or~~  
1 to 10 wt.% of components C), ~~and~~ ~~and/or~~  
0.02 to 1 wt.% of components D).
8. (Currently Amended) Use A method according to claim 1 ~~one of claims 1 to 7~~, characterised in that the ratio by weight of component B) to component C) is in the range from 6 : 1 to 1 : 3.
9. (Currently Amended) Fuel gas with a methane content of at least 60 wt.%, and containing a an odorization mixture as defined in one of claims 1 to 8 comprising:  
A) at least two different acrylic acid C<sub>1</sub>-C<sub>6</sub> alkyl esters;  
B) at least one compound from the group comprising C<sub>1</sub>-C<sub>8</sub> mercaptans, C<sub>4</sub>-C<sub>12</sub> thiophenes, C<sub>2</sub>-C<sub>8</sub> sulfides or C<sub>2</sub>-C<sub>8</sub> disulfides; and  
C) at least one compound from the group comprising norbornenes, C<sub>1</sub>-C<sub>6</sub> carboxylic acids, C<sub>1</sub>-C<sub>8</sub> aldehydes, C<sub>6</sub>-C<sub>14</sub> phenols, C<sub>7</sub>-C<sub>14</sub> anisoles or C<sub>4</sub>-C<sub>14</sub> pyrazines. [[:]]
10. (Original) Fuel gas according to claim 9, characterised in that the fuel gas is natural gas.
11. (Cancelled)
12. (Original) Process according to claim 1 ~~11~~, characterised in that the mixture is added to the fuel gas in a quantity of 5 to 100 mg per m<sup>3</sup> of gas.

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